



Allen D. Leman Swine Conference



Volume 39
2012

Published by: Veterinary Continuing Education

Sponsors

We thank the following sponsors:

Platinum

Bayer Animal Health
Pfizer Animal Health

Gold

Novartis Animal Health

Silver

Boehringer Ingelheim Vetmedica, Inc.
National Pork Board
Newport Laboratories

Bronze

Merck Animal Health

Copper

AgStar Financial Services
Elanco Animal Health
GlobalVetLINK
IDEXX
Novus International, Inc.
PIC USA
USDA PRRS CAP

University of Minnesota Institutional Partners

College of Veterinary Medicine
University of Minnesota Extension
College of Food, Agriculture and Natural Resources Sciences

Four serologic surveys confirm *Lawsonia intracellularis* continues to be highly prevalent in Midwestern United States pig flows

Brian Payne, DVM; Jeff Luebbe, DVM
Boehringer Ingelheim Vetmedica, Inc, St. Joseph Missouri

Introduction and Objectives

Changes in production methods and antibiotic uses in the swine industry have the potential to alter the infection rate of many pathogens. It is important for practitioners to continue to evaluate protocols for vaccine implementation and antibiotic use to target protection and treatment of specific pathogens. *Lawsonia intracellularis* infection timing has been shown to change over time within a flow and even within a farm. This is especially true when large changes to antibiotic protocols are made. The goal of this serologic survey was to evaluate finisher age pigs in farms located in the Midwest United States to determine the prevalence of *Lawsonia intracellularis* in those locations.

Materials and Methods

One hundred and four sites' pigs were tested across 4 flows within a system during May-August 2010 and 2011 (Table 1). Sites represented traditional finisher and wean-to-finish sites. There were also pigs from all-in-all-out (AIAO) and continuous flow sites. Pigs (n=10), 18 weeks placement and older were serologically tested. Individual serum was tested using bioScreen Ileitis blocking ELISA (Synbiotics Europe SAS). A cut-off value of 30 PI (percent inhibition) for positive-negative was used.

Table 1: Flow description and number of sites

Flow	# of Sites	Description
A	22	Mix of wean-to-finish and finisher sites, AIAO sites
B	29	Nursery-finisher sites; continuous flow
C	26	Mix of wean-to-finish and finisher sites, AIAO sites
D	27	Mix of wean-to-finish and finisher sites, AIAO sites
Total	104	---

Results

ELISA results are in table 2. To be conservative, only sites with more than one positive ELISA test are considered positive.

Table 2: *Lawsonia intracellularis* ELISA results

Flow	Number, n		Percent, %	
	Positive	Negative	Positive	Negative
A	22/22	0/22	100%	0%
B	27/29	2/29*	93%	7%
C	21/26	5/26†	81%	19%
D	25/27	2/27*	93%	7%
Total	95/104	9/104	91%	9%

*1 site with 1 sample positive; †4 sites with 1 sample positive

Discussion and Conclusions

At the time of testing, 91% of all sites showed evidence that they were exposed to *Lawsonia intracellularis*. This is a conservative estimate because 1) not all the sites were tested immediately prior to marketing and seroconversion could occur later (some sites had 8 weeks until final marketing) and 2) six sites had at least one positive but were considered negative. If those six sites were considered positive, the percent positive farms would have risen to 97%. It is suspected that nearly 100% of all commercial swine sites evaluated were infected with *Lawsonia intracellularis* and would have shown evidence of seroconversion in the population by day of final market.

These serologic surveys indicate that *Lawsonia intracellularis* continues to be a widely prevalent pathogen in the swine industry, at least in the Midwestern United States.

Many practitioners recommend intervention programs to prevent economic losses from average daily gain decreases, feed conversion losses and in some cases mortality due to ileitis. Practitioners should use this information to further explore the pathogen exposure timing to implement proper preventions such as attenuated live vaccines.